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AUTHOR Kromhout, Ora M.; Massey, Romeo M.
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ABSTRACT

A survey of educators was conducted to determine the relative importance of eight desirable characteristics of competency based education materials and then to apply the results to materials actually in use. Initially, 129 vocational instructors, administrators, and instructional designers were surveyed using a pair-comparison method. Objectives and learning activities were judged most important, followed in order by current, comprehensive content; tests for assessing student performance; validation of the materials; individualization; appropriateness for the student population; and classroom management information. Some significant differences were found among the three groups of raters. A forced-choice, Likert-type survey instrument based on the eight criteria was developed and administered to 1,245 Florida instructors in thirty-four vocational courses. Materials scored highest on appropriateness, followed in order by content, learning activities, objectives, validation, individualization, tests/assessment, and management information. Differences were found among vocational program areas and among courses within a program area. Subscores were consistent with those on perceived importance of the characteristics with the exception of "appropriateness for students." Results showed need for improvement in materials now in use. (Sample pages from questionnaire are appended.) (NEK)

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THE CHARACTERISTICS OF INSTRUCTIONAL MATERIALS
FOR COMPETENCY-BASED EDUCATION:
PERCEPTIONS OF INSTRUCTORS, ADMINISTRATORS,
AND INSTRUCTIONAL DESIGNERS

Ora M. Kromhout

and

Romeo M. Massey

Florida State University

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The Characteristics of Instructional Materials
for Competency-Based Education: Perceptions of
Instructors, Administrators, and Instructional
Designers

ORA M. KROMHOUT

ROMEO M. MASSEY

Center for Studies in Vocational Education
Florida State University

ABSTRACT

129 educators--vocational instructors, administrators, and instructional designers--were surveyed, using the pair-comparison method, to determine the relative importance of eight desirable characteristics of instructional materials for competency-based education. Objectives and related learning activities were judged most important, followed in order by: current, comprehensive content; tests for assessing student performance; validation of the materials; individualization; appropriateness for the student population; and classroom management information.

An instrument based on these criteria was administered to 1245 instructors in 37 vocational programs. Results showed the need for improvement in materials now in use.

As part of a project to determine the relative need, statewide, for instructional materials in various vocational courses, an instrument was needed for surveying teachers as to the need for competency-based instructional materials in their classrooms. In connection with the development, testing, and implementation of this survey, a study was made of vocational educators' perceptions of the importance of selected characteristics of instructional materials for competency-based education (CBE). This paper reports on the results of that study, and compares those perceptions with the survey-measured characteristics of materials actually in use in the classrooms of 1,238 vocational instructors in Florida.

Steps in the study included: (1) determination of the characteristics of CBE materials which would be used as the basis for design of the survey instrument; (2) determination of the relative importance of the selected characteristics as perceived by vocational education instructors, administrators, and instructional designers; (3) design, field-test, and revision of the instrument; (4) implementation of the survey and analysis of results; and (5) comparison of the observed strengths and weakness of current instructional materials to those judged important for CBE.

Procedures and Results

Determination of the Characteristics

Two computer searches were conducted using the DIALOG system and descriptors such as "evaluation of instructional materials," "textbook

evaluation," "instructional materials needs assessment," and "evaluation of student materials." In addition, system models for the design/development of instructional materials were reviewed for descriptions of the characteristics of instructional products. Searches previously conducted to establish the characteristics of competency-based instructional materials and programs were reviewed, along with the accepted descriptions of competency-based education transmitted by the Florida Division of Vocational Education.

Many of the citations identified during the searches described the processes used by local communities and state governments in evaluating and adopting instructional materials, but not the criteria for adoption, nor the characteristics of the materials. Those listing criteria or characteristics fell into two categories, first the characteristics of competency-based instructional materials, and second, the characteristics which any "good" set of materials should have. Lists of both types of characteristics were shown to a group of six instructional designers who were asked to simplify the overlapping terminology. The resulting eight categories, or characteristics of "good," competency-based instructional materials were then approved by a representative of the Division of Vocational Education as being consistent and compatible with models and definitions it used.

The eight characteristics finally selected as a basis for the survey instrument were the following:

Objectives, written into the materials, which provide clear statements of the required performances.

Tests and/or performance checklists that can be used to directly measure students' performance.

Validation or field-testing of the materials to measure the instructional effectiveness of the materials.

Content that is comprehensive and up-to-date.

Appropriateness of the materials to the characteristics and needs of the types of students who will be using the materials.

Student learning activities, practice and reinforcement, provided or specified in the materials, which lead to student mastery of the objectives.

Provision for individualization, self-pacing, allowance for open-entry/open-exit.

Instructor management information, such as record keeping forms, course sequencing, and directions for implementation and classroom management.

Determination of the Relative Importance of the Characteristics as Perceived by Vocational Educators

A pair-comparison technique was used to survey 128 educators: 52 vocational instructors, 57 vocational education administrators, and 19 persons who were involved with instructional design of materials. They were asked to consider the relative importance of the eight characteristics of good competency-based instructional materials. Using the instrument shown in Appendix A, in which each of the eight selected characteristics is paired with each of the others, they were asked to circle the more important characteristic of the pair. The number of times that a particular characteristic was circled, averaged across all the respondents in a group, was used as the measure of the relative importance of that characteristic, as perceived by the members of that group.

The results of the pair-comparison procedure are shown in Table 1. Averaging across all respondents, (1) objectives, and (2) learning activities for those objectives, were judged most important, followed in order by: (1) up-to-date comprehensive content; (2) tests for assessing student performance; (3) validation of the materials; (4) individualization; (5) appropriateness for the student population; and, (6) classroom management information. However, some significant ($p < .05$) differences were found among the three groups of respondents. The instructors rated objectives lower than the administrators did. Instructors also rated the validation or field-testing of the materials as less important than did the administrators or the instructional designers. However, the instructors rated the individualization capability of the materials and the management information of greater importance than did the instructional designers. The instructors rated management information higher than the administrators did. No significant difference was found among the three groups for learning activities, tests, content, or appropriateness. It should be kept in mind in interpreting the results of Table 1 that the figures shown are the mean number of times that a certain characteristic was selected as more important than another characteristic. Therefore a lower score, such as that for management information, does not necessarily mean that the raters thought this was an unimportant characteristic, but that others were more important.

Table 1

Mean Number of Times Each Characteristic Was Selected in
Pair-Comparison Procedure, by Respondent Group

	Instructors (n = 52)		Administrators (n = 57)		Designers (n = 19)		Total (n=128)
	Mean*	$\frac{s.d.}{\sqrt{n}}$	Mean	$\frac{s.d.}{\sqrt{n}}$	Mean	$\frac{s.d.}{\sqrt{n}}$	
Objectives	4.0	.29	4.9	.25	4.7	.44	4.48
Learning Activities	4.4	.25	4.2	.20	4.4	.37	4.30
Validation	2.6	.26	3.6	.28	4.4	.55	3.30
Tests/ Assessment	3.5	.26	3.4	.24	4.0	.32	3.51
Content	4.1	.26	4.2	.27	3.5	.46	4.05
Appropriateness	2.9	.27	2.8	.22	3.4	.40	2.91
Individualization	3.7	.28	3.0	.27	2.5	.46	3.22
Management	2.7	.23	2.1	.23	1.2	.33	2.22

*Range of possible scores: 0 - 7

The method of pair-comparisons does not, in itself, provide a basis for establishing a meaningful zero point for the scale of means that are shown in Table 1 (Guilford, 1954). However, outside information can be brought to the process to attempt the location of such a meaningful zero. A trial of such a procedure was made for the purpose of establishing weights for each characteristic to be used in scoring the survey instrument results. However, the application of these weights made a negligible difference in the results of the survey. Because of this, and the questions of validity involved in establishing such a meaningful zero, a mean value weighted by characteristic was not used. The reported means are simply means across all statements in the instrument.

Design, Field-Test, and Revision of the Instrument

Based on the eight selected characteristics of instructional materials for competency-based education, an instrument was designed for surveying teachers as to the quality of the materials they are currently using. The instrument consists of 40 statements which, taken together, describe an "ideal" set of competency-based materials. (An additional 17 statements describe the materials' coverage of employability skills; however, these results are not included in this paper.) The teacher-respondent is asked to answer on a four-point scale -- from "strongly disagree" to "strongly agree" whether the statement describes all the instructional materials currently used in his or her classroom. For each statement, the response was scored 1, 2, 3, or 4, corresponding to strongly disagree, mildly disagree, mildly agree, or strongly agree. A four-point scale was used, rather than

five-point, so as to require respondents to choose a non-neutral response. Thus an "ideal" set of materials would receive a "4" for each statement, or an average of 4.0 across the entire set of statements. A teacher's rating of all the materials in use in his or her classroom results in an average score between 1.0 and 4.0. When these scores are averaged across all the teacher-respondents in a given course, the difference between the average score and the ideal 4.0 is a measure of the need for good, competency-based instructional materials in that course. This instrument was field-tested with 86 vocational teachers from all vocational program areas (agricultural education, business education, etc.) in secondary schools, vocational-technical centers, and community colleges, from rural as well as urban settings in Florida. Revisions in the instrument were made as needed. Also revised were the survey implementation materials (Survey Leader's Guide, filmstrip/cassette, etc.) used by 175 trained survey leaders to administer the survey. The purpose of this extensive field-testing was to remove ambiguous or unclear language, and to make the administration as uniform and simple as possible. A sample of the final form of the instrument, called the Instructional Materials Assessment Survey (IMAS), is shown in Appendix B. It is interesting to note that this instrument has been used not only for its intended purpose of assessing the need for instructional materials, but has also been used by some local education agencies as a tool for in-servicing teachers in competency-based education.

Implementation of the Survey

The Instructional Materials Assessment Survey (IMAS) has been administered statewide to instructors in 34 selected vocational education courses. For practical reasons, it was not possible to survey all of the hundreds of courses offered in vocational education. Selection of courses to be surveyed was based, in part, on a prioritization system of weighted "importance factors" such as student enrollment, job demand, placement, entry level earnings, and cost category (Kromhout, 1978). Additional programs will be surveyed in 1980, and thereafter, probably on a biennial basis.

The survey is administered in group in-service settings by trained survey leaders. Teachers mark their responses on computer op-scan sheets. Because the IMAS survey is not subject matter specific, it may be administered to groups of teachers from the same course or from different courses. The completed sheets are returned by the survey leader to the Florida State University Center for Studies in Vocational Education for scoring and analysis. A computer program has been written to calculate, for each course or program, subscores for each of the eight characteristics, as well as an overall mean score (M).

The scores for the 34 surveyed courses are shown in Tables 2 and 3. In interpreting this table it should be kept in mind "ideal" materials would score 4.0, meaning that every instructor "strongly agreed" that each statement describing ideal materials also described the materials in use in his or her classroom. At the other extreme, if the classroom materials were so far from the ideal that every instructor "strongly disagreed" with every statement, the score would be 1.0. Thus

Table 2

Scores and Subscores on IMAS Survey, by Course

Course Number	Course Title	n	Objective	Appropriateness	Content	Learning Activities	Individualization	Management	Tests	Validation	Overall Mean Score
3630	Ag. Chemicals, Fertilizers, Seeds & Hardware	11	2.9	2.6	2.5	2.4	2.0	1.9	1.9	2.2	2.4
3671	Natural Resources Management	6	2.0	2.5	2.4	1.6	1.8	1.5	1.7	1.2	2.0
7616	Bookkeeper	98	2.6	3.3	3.2	3.1	2.4	2.2	2.2	2.5	2.7
6724	Bookkeeping II	73	2.6	3.4	3.2	2.8	2.2	2.3	2.0	3.0	2.7
7644	Clerical Office Practice	79	2.6	3.3	3.0	3.0	3.4	2.1	2.0	2.0	2.6
7648	Reprographics	17	2.6	3.2	2.8	2.9	2.1	2.0	2.4	1.7	2.5
7750	Advanced Shorthand	85	2.7	2.9	3.3	2.8	2.1	1.9	2.0	3.1	2.6
7751	Dictation & Transcription	34	2.4	3.2	3.0	2.8	2.2	1.7	1.9	2.0	2.5
7757	Secretarial Office Practice	59	2.5	3.2	3.1	2.8	2.3	2.0	2.0	2.1	2.6
7761	Secretary	47	2.7	3.2	3.2	2.9	2.4	2.2	2.3	2.4	2.7
7774	Word Processing	25	2.6	2.8	3.0	2.8	2.3	2.2	2.5	2.5	2.6
4611	Banking Fundamentals	11	2.3	2.8	2.9	2.5	2.3	2.1	2.1	2.3	2.5
4623	Grocery Merchandising	24	3.2	3.0	3.1	3.1	3.0	2.9	3.1	3.2	3.1
4631	Cashiering for Salespeople	12	3.0	2.7	3.0	3.0	2.7	2.3	2.6	2.9	2.8
4635	Marketing & Merchandising I	99	3.3	3.2	3.3	3.4	3.2	3.0	3.1	3.2	3.2
4637	Marketing & Merchandising III	32	3.3	3.2	3.3	3.1	2.9	2.8	3.2	3.2	3.1
4749	Hotel-Motel Management	11	2.6	3.0	3.1	3.7	2.4	2.4	2.3	2.1	2.7
3041	Nursing Assistant	57	2.6	3.2	3.1	2.5	1.9	1.6	1.9	1.9	2.4
3042	Nursing - RN, AD	78	3.1	3.4	3.2	2.9	2.2	1.6	2.5	1.9	2.7
3080	Respiratory Therapy Technician	15	3.1	3.1	3.4	3.1	2.3	1.5	2.7	2.8	2.8
2618	Family Living	50	2.1	2.8	2.7	1.9	1.8	1.6	1.5	1.6	2.1
2757	Food Production & Services	18	2.8	2.9	3.3	3.0	2.6	2.0	2.6	2.4	2.8
8115	Fire Science Technology	5	2.8	3.0	3.1	3.0	2.4	2.3	2.5	2.0	2.7
8116	Criminal Justice Technology	21	2.9	3.4	3.4	2.6	2.1	1.9	2.4	2.6	2.7
8117	Fire Fighting	5	3.0	3.8	3.4	3.1	2.5	2.6	2.8	3.4	3.0
8122	Correctional Officer	5	2.5	2.9	3.0	2.5	2.0	1.9	2.1	2.0	2.4
8028	Electronics Technology	17	2.9	3.6	3.3	3.1	2.6	2.0	2.4	2.5	2.8
8100	AC, Refrig. & Heat. Technology	11	1.8	3.0	2.7	2.4	1.8	1.6	1.7	2.0	2.1
9013	Air Cond. & Heat. Mechanics	34	2.6	3.1	3.2	2.9	2.4	2.0	2.5	2.3	2.6
9163	Carpentry	38	3.1	3.1	3.4	3.2	2.8	2.7	3.0	2.9	3.1
9273	Industrial Electricity	13	2.7	2.9	3.1	2.9	2.4	2.1	2.5	2.1	2.7
9303	Electric Wiring	15	2.8	3.2	2.9	2.5	2.3	2.1	2.3	2.0	2.6
9323	Industrial Electronics	22	2.6	3.0	3.0	2.7	2.3	1.9	2.4	2.3	2.6
9553	Machine Shop	11	2.8	3.2	3.5	3.4	2.7	1.9	2.9	2.3	2.9
	Mean across all respondents (n = 1238)		2.7	3.2	3.1	2.9	2.4	2.1	2.3	2.4	2.7

* The standard error of the mean for individual courses is generally in the range of .05 to .20, depending primarily on $\frac{1}{\sqrt{n}}$ for the particular course.

Table 3

Scores and Subscores on IMAS Survey, by Program Area

Program Area	n	Objectives	Appropriateness	Content	Learning Activities	Individualization	Management	Tests	Validation	Overall Mean Score
Agri-Business & Natural Resources Education	17	2.6	2.5	2.5	2.1	2.0	1.8	1.8	1.9	2.2
Business & Office Education	617	2.6	3.2	3.1	2.9	2.3	2.1	2.1	2.4	2.6
Marketing & Distributive Education	189	3.2	3.1	3.2	3.2	3.0	2.8	3.0	3.1	3.1
Health Occupations Education	150	2.9	3.3	3.2	2.8	2.1	1.6	2.3	2.0	2.6
Home Economics Education	68	2.3	2.8	2.8	2.2	2.0	1.7	1.8	1.8	2.3
Public Service Education	36	2.8	3.3	3.3	2.7	2.2	2.1	2.5	2.6	2.7
Industrial Education	161	2.6	3.1	3.2	2.9	2.5	2.1	2.6	2.4	2.7
Mean across all respondents (n = 1238)		2.7	3.2	3.1	2.9	2.4	2.1	2.3	2.4	2.7

a score of 2.5 would represent the dividing line between agreeing and disagreeing that one's classroom materials were accurately described by the statements in the survey.

When the subscores for each characteristic were averaged across all 1,238 respondents (as shown at the bottom of Tables 2 and 3) it was found that teachers judged the instructional materials weakest on classroom management information, tests for assessing student performance, provision for individualization, and validation. Materials were strongest in the areas of content and appropriateness for the type of student. However, there is considerable variation among the vocational program areas, as shown in Table 3, and among the courses within a program area, as shown in Table 2. Of the vocational program areas, Marketing and Distributive Education had the highest-scoring materials, while Home Economics Education and Agribusiness and Natural Resources Education showed the greatest discrepancy from ideal. The small number of responses in Agribusiness makes these results less dependable. The differences between the individual courses, while not relevant to the topic of this paper, was of interest to Florida's vocational education administrators, in that this information was helpful in setting priorities for instructional materials acquisition projects.

Comparison of the Observed Strengths and Weaknesses of Current Instructional Materials to Characteristics Judged Important for Competency-Based Education

Figure 1 shows the relative importance of the eight characteristics, as perceived by the total 128 educators who responded to the pair-comparison study. Figure 2 displays the average scores on these characteristics

of instructional materials in use by 1,234 vocational instructors. A comparison of these figures shows that objectives, learning activities, and content, which constitute the highest group on "perceived importance" (Figure 1), are also three of the four highest-score characteristics measured in vocational instructional materials currently in use (Figure 2). Appropriateness for the student population was also a high-scoring characteristic of materials in use, though the importance of this characteristic was judged relatively low. Management information was lowest both in perceived importance and in scores in instructional materials being used.

Summary and Discussion

A pair-comparison procedure was used to measure the relative importance of eight characteristics of good, competency-based instructional materials as perceived by vocational instructors, vocational administrators, and instructional designers. Averaged across all respondents, the characteristics were ranked in the following order of importance: objectives, learning activities, content, tests/assessment, validation, individualization, appropriateness for the student population, management information.

Some significant differences were found among the three groups of raters. Instructors rated objectives and validation lower than did the other groups, individualization higher than did the instructional designers, and judged management information to be more important than either the administrators or instructional designers did. Even so, management information was rated at or near the bottom of the list by all three

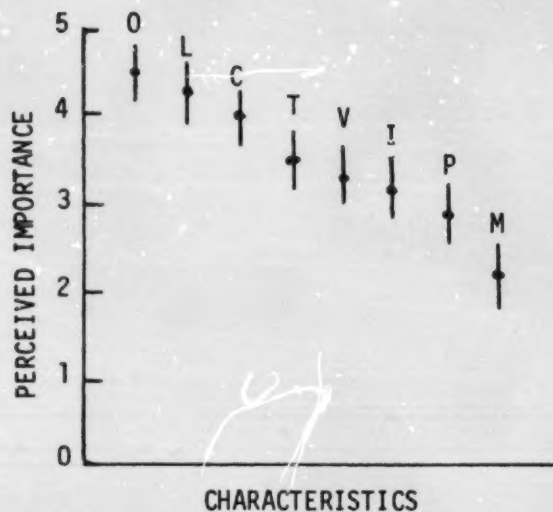


FIGURE 1. Perceived importance of selected CBE characteristics, as measured by mean number of times selected in pair-comparison procedure.

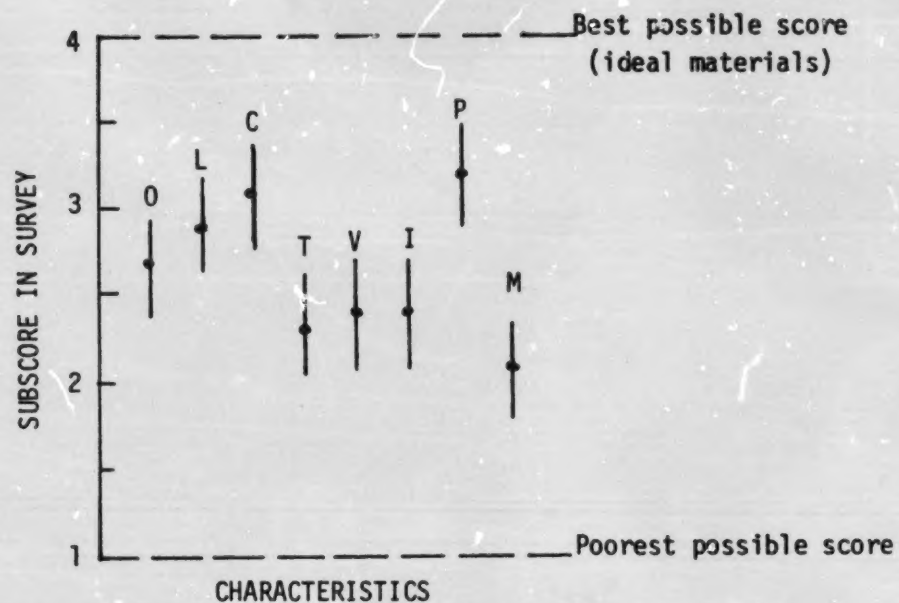


FIGURE 2. Measured subscores on CBE characteristics of materials used in surveyed vocational education courses.

(Note: In Figures 1 and 2, the dots represent means, line through each dot represents approximate 5% confidence interval.)

CHARACTERISTICS:

- O: objectives
- L: learning activities
- C: content
- T: tests/assessment
- V: validation
- I: individualization
- P: appropriateness
- M: management information

groups. This finding appears to be in contrast to a prevalent viewpoint that a major stumbling block to widespread implementation of competency-based education (CBE) is the lack of instructor knowledge of how to manage CBE in the classroom. Perhaps the respondents felt that instructor training in management may be needed, but that providing such information in the instructional materials would not make much difference.

The Instructional Materials Assessment Survey (IMAS), which has 40 statements related to the eight characteristics, was completed by 1,238 instructors in 34 vocational courses. An overall mean score, and subscores for each of the eight characteristics, were computed for each of the courses surveyed. Differences were found among vocational program areas and among courses within a program area. Averaged across all respondents, the materials scored highest on appropriateness, followed in order by content, learning activities, objectives, validation, individualization, tests/assessment, and management information.

These subscores on the characteristics as they appear in actual materials were consistent with the perceived importance of the characteristics with the exception of "appropriateness for students". This characteristic scored highest in the materials, but ranked next-to-last in perceived importance. There was some indication that objectives did not score correspondingly as high in the materials as they did in the importance rankings. A larger sample would be needed to test this conclusion.

Of the eight subscores on characteristics of the materials in surveyed courses, four subscores were lower than the "neutral" score of 2.5. Only two characteristics--appropriateness and content--scored 3.0 or higher,

which would correspond to an average response of "mildly agree" with the statements describing ideal materials. One could conclude that improvements are needed in the instructional materials so that the remaining six characteristics, and especially such important ones as objectives, learning activities and tests, would score at least at the "mildly agree" level.

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Appendix A

Below are listed statements that describe characteristics that are desirable in instructional materials for competency-based education.

Characteristics

- B** There are objectives written directly into the materials, and the objectives provide clear statements of the required performances.
- T** The materials contain a system for evaluating students' performances, including tests and/or performance checklists that directly measure mastery of the objectives.
- V** The materials have been field-tested or in some way **validated** so that it is known that the instruction is effective.
- C** The content covered in the materials includes all the necessary knowledges, skills, and attitudes.
- P** The materials were designed to fit the characteristics and needs of the types of students who will be using them (the student population).
- L** The materials provide or specify appropriate student learning activities, practice, and reinforcement for mastery.
- I** The materials are structured well enough and provide enough student directions to allow open-entry/open-exit, self-pacing, and individualization.
- M** The materials are accompanied by adequate instructor management information, such as record keeping forms, course sequencing, and directions for implementation.

Directions: For each pair of characteristics listed below, circle the letter that represents the characteristic that is more important in competency-based instructional materials. Circle one letter in each pair. Answer on the basis of your own opinions as an educator.

C — I	B — T	C — T	V — C
T — V	I — B	V — B	T — P
P — V	L — M	L — I	B — C
I — T	L — T	P — M	I — M
B — P	I — P	L — B	V — L
T — M	M — V	V — I	B — M
M — C	L — P	C — P	L — C

Instructional Materials Assessment Survey

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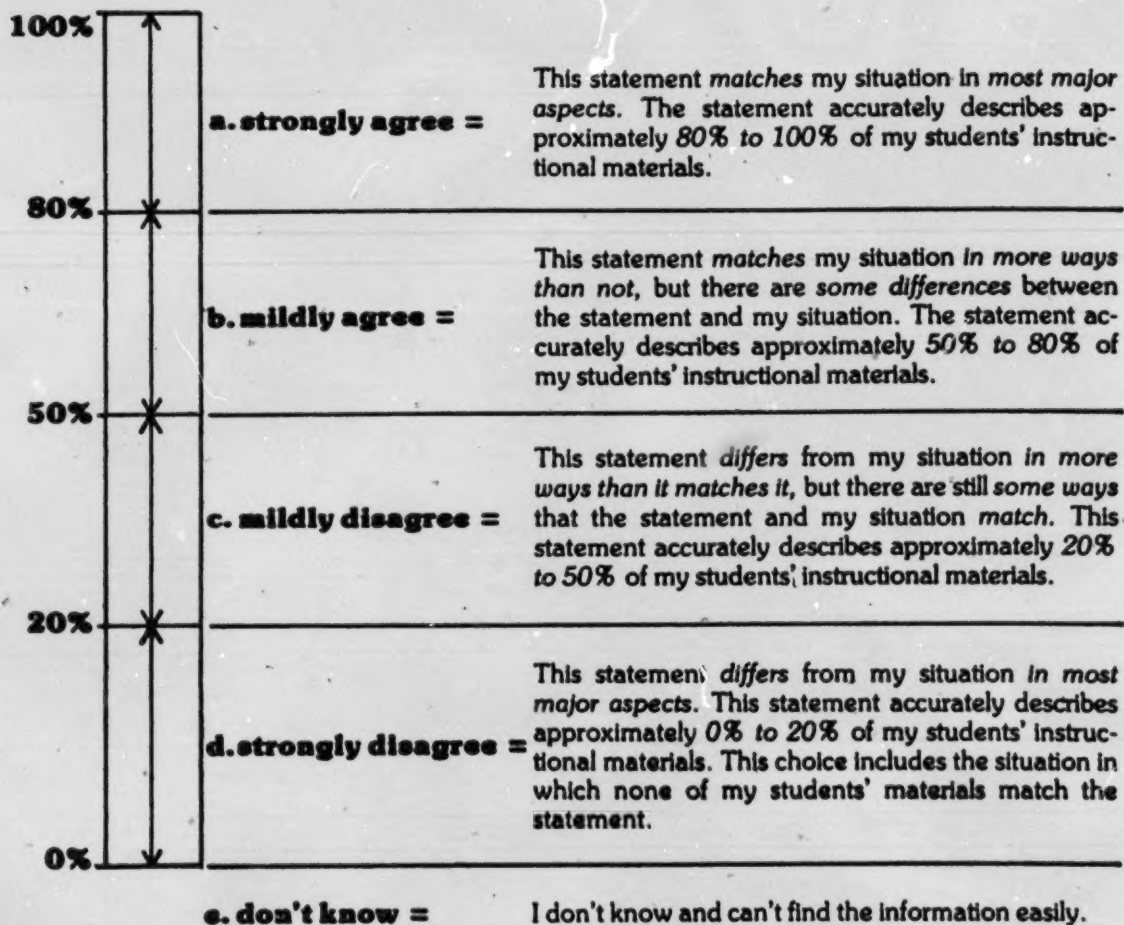
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Directions: This scale is intended to help you judge the **proportion** of your students' instructional materials that match the statements to which you will respond. Remember to base your choice on **all** of the materials your students use in the course you identified in your I.D. number. You should not base your answers on whether you agree with the statements or on what you think your students' materials should be like, but on **what their materials actually are**. These same explanations will apply whenever this scale is used throughout the survey. If you have any questions about the scale, ask your survey leader **before** you begin.



Section 2: Appropriateness for Your Students

It is important to know if instructional materials are appropriate for a group of students.

One way to judge this is to determine whether materials are intended for use by students in a certain **grade range**, such as **secondary school, vocational-technical school, or community college**.

Q 13 The instructional materials my students use are appropriate for their *grade range*.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know

A second way to judge if materials are appropriate for a group of students is to determine whether the materials are intended for the same **skill level** that the students are trying to reach. The **preparatory level** is one in which students are acquiring **entry-level skills**. The **supplemental level** is one in which students are **upgrading or updating** their skills after already working in the occupation.

Q 14 The instructional materials my students use are appropriate for the *skill level* they are studying to acquire.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know

Another way to judge if materials are appropriate for a group of students is to determine whether the materials are appropriate for a certain **type of student**, such as **regular students** and **special students**—the mentally handicapped, the physically handicapped, or the educationally disadvantaged.

Q 15 The instructional materials my students use are appropriate for the *type(s) of student* that is/are in my course.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know

The **reading level** of the printed portions of instructional materials is important in judging just how well a set of materials fits the needs of a group of students.

Q 16 The instructional materials are appropriate for the reading level of my students.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know



Part II—Objectives in Materials

All of the remaining items in this questionnaire deal with the **characteristics of the instructional materials your students use.**

Remember, it doesn't make any difference if your students use one set of instructional materials or several sets. The important thing is that you base your responses on **all** of the instructional materials that they use in the course you indicated in your I.D. number, including commercial materials, noncommercial materials, and locally produced materials.

Q 6 The instructional materials my students use contain objectives.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know

Directions: If you checked **d** or **e** in answer to Q 6, you are finished with this section of the questionnaire. If you did not, please continue.

Objectives are stated **behaviorally** if they say **what** the student has to do, under **what conditions**, and **how well**.

Q 7 The objectives contained in the instructional materials used by students are stated behaviorally.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know

Q 8 The objectives contained in the instructional materials that my students use are displayed so that students can easily see them.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know

Q 9 The objectives contained in the instructional materials are up-to-date; that is, they closely match what a worker actually has to do on the job.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know

Instructional materials may contain knowledge, skill, and/or attitude objectives.

A **knowledge objective** states what a student has to **know**, such as vocabulary, concepts, and rules.

Q 10 The instructional materials that my students use have *written knowledge objectives* that a student has to accomplish to successfully complete the materials.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know



Section 3: Content and Sequence

A **job task analysis** helps a developer decide what should be included in and what should be excluded from a set of instructional materials for a specific occupation.

If a job task analysis was conducted to develop a set of materials, references to it will normally be found in the introduction to the materials, the teacher's guide, or in accompanying explanatory brochures or pamphlets.

Q 18 A job task analysis was used to determine the content of my students' instructional materials.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know

The **content** of a set of instructional materials should be the knowledge, skills, and attitudes necessary for a student to be successful in the occupation for which the materials were designed.

Q 19 The content of the instructional materials that my students use covers the *knowledge* (what a person has to know, such as concepts, vocabulary, or rules) necessary for a student to complete my course.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know

Q 20 The content of the instructional materials that my students use covers the *physical skills* (what a person has to do) necessary for a student to complete my course.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know

Q 21 The content of the instructional materials that my students use covers the *attitudes* (such as safety, neatness, courtesy, etc.) required to complete my course.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know

Q 22 The content of the instructional materials is directly related to the tasks identified in the task analysis and/or to an objective.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know

Q 23 The content of the instructional materials used by students in my course is reasonably up-to-date as compared to actual conditions in the occupation.

- ☐ a. strongly agree ☐ b. mildly agree ☐ c. mildly disagree ☐ d. strongly disagree ☐ e. don't know

